

REMARKS

Objections to and Rejections of the Claims

Claims 1-60 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over US Patent No. 5,485,573 (hereinafter "the Tandon reference") in view of US Patent Number 6,195,760 (hereinafter "the Chung reference") and US Patent No. 4,164,017 (hereinafter "the Randell reference").

The Tandon reference, in summary, is directed to a method for gathering more and better information into dump files, in a multi-host computing environment. When a failure occurs on one host, the system disclosed in the Tandon reference gathers a dump file from each host that is operating in the multi-host environment. By gathering dump files from several hosts, more data possibly relevant to diagnosing the failure is collected, as compared to systems which only gather dump files from the host that failed. The Chung reference discloses that a backup system can be used to take over for a primary system when the primary system has a failure.

The Randell reference discloses a method for recovery from a failure within a block of a computer program, by copying the state of system resources, specifically values assigned to variables, from a main store to a cache when the values of the variables are modified by the program logic. This creates a backup copy of the values. When a program block fails, these backup values are copied back from the cache to the main store, thereby restoring the computer program to the state it was in just prior to executing the failed program block. Various error recovery methods are then attempted, such as executing alternate program blocks using the same initial values.

Claim 1 recites the step of preserving in place the state of a first set of system resources after a failure occurs in a computer system. Claim 1 further recites the step of diagnosing the failure by analyzing one or more resources from the first set of system resources.

Addressing the Office Action's rejections, claim 1 stands rejected over the Tandon reference, in view of the Chung reference and the Randell reference. Applicants have amended Claims 1, 12, 21, 41, and 52 to clarify that the state of the system resource is preserved in place, in the failed

computer system. It is submitted that these amendments place the application in condition for allowance, or in the alternative present the case in better form for appeal

The Office Action rejects Claim 1 over the Tandon reference, in light of the Randell reference, finding that the Randell reference discloses preserving the state of a first set of system resources. As discussed above, the Randell reference discloses copying the state of a system resource from a main store to a cache, and restoring the copy back to the main store if necessary. Nothing in the Randell reference discloses preserving the state of a system resource in place in the main store when a failure occurs. In fact, the Randell reference specifically discloses discarding the modified state information contained in the main store at the time of failure, and replacing that state information with the unmodified copy of the state information that was stored in the cache (Col. 3, lines 7-17).

The Tandon reference discloses diagnosing a failure by copying or recording the contents of allocated memory to a file, and then performing an analysis on the dump file copy stored in that file later on (col 2, lines 40-49). Claim 1, in contrast, recites the analysis of the resources themselves, by preserving in place the resources in the computer system the resources belong to. Nowhere does the Tandon reference disclose, teach, or suggest preserving in place the state of the system resource (as opposed to copying the state of the resource), and then analyzing the system resource itself.

Since neither the Tandon reference, the Chung reference nor the Randell reference disclose, teach, or suggest preserving in place the state of the system resource, Applicants respectfully submit that claim 1, as amended, is allowable over the cited references. For at least these reasons, claims 2-60 are likewise allowable over the cited references.

Applicants also add new claims 61-72, which depend from independent claims which, as amended, are submitted to be in condition for allowance. It is respectfully submitted that new claims 61-72 are in proper form for allowance for the reasons stated above with respect to claims 1-60.

Conclusion

Applicants submit that the claims, as amended, are now in condition for allowance, which is respectfully requested. Nothing in this document shall act as an admission that any reference cited in the Office Action is prior art. Should the Examiner have any questions or comments, she is invited to call the undersigned Attorney at (949) 567-2300.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES

IN THE CLAIMS

1. A method of diagnosing a computer system after a failure comprising:
preserving in place the state of a first set of system resources after the failure occurs in the computer system;
accessing the computer system by utilizing a second set of system resource;
and
diagnosing the failure by analyzing one or more resources from the first set of system resources.
12. A method of diagnosing a computer system after a failure comprising:
detecting a failure on a first computer system;
implementing fail-over to a second computer system after detecting the failure on the first computer system;
preserving in place the state of one or more resources on the first computer system;
accessing the first computer system to diagnose the failure; and
diagnosing the failure by analyzing the one or more resources.
21. A medium readable by a processor, the medium being stored thereon a sequence of instructions which, when executed by the processor, causes the execution of a process of preserving the state of a computer system after a failure by performing:
preserving in place the state of a first set of system resources after the failure occurs in the computer system;
accessing the computer system by utilizing a second set of system resource;
and
diagnosing the failure by analyzing one or more resources from the first set of system resources.
22. A medium readable by a processor, the medium being stored thereon a sequence of instructions which, when executed by the processor, causes the execution of a process of preserving

the state of a computer system after a failure by performing:

- detecting a failure on a first computer system;
- implementing fail-over to a second computer system after detecting the failure on the first computer system;
- preserving in place the state of one or more resources on the first computer system;
- accessing the first computer system to diagnose the failure; and
- diagnosing the failure by analyzing the one or more resources.

41. A system for diagnosing a computer system after a failure comprising:

- a preservation module for preserving in place the state of a first set of system resources after the failure occurs in the computer system;
- an access module for accessing the computer system by utilizing a second set of system resources; and
- a diagnosis module for diagnosing the failure by analyzing one or more resources from the first set of system resources.

52. A system for diagnosing a computer system after a failure comprising:

- a failure detection module, for detecting a failure on a first computer system;
- a fail-over module, for implementing fail-over to a second computer system after detecting the failure on the first computer system;
- a resource preservation module, for preserving in place the state of one or more resources on the first computer system;
- an access module for accessing the first computer system to diagnose the failure; and
- a diagnosis module, for diagnosing the failure by analyzing the one or more resources.